

WHAT IS CLAIMED IS:

1. An image processing device, comprising:
obtaining means for obtaining the degree of change of color within a gradation drawing area;
determining means for determining a thinning-out level within said gradation drawing area, based on the degree of change of color obtained by said obtaining means;
and
calculating means for calculating the color value of pixels within said gradation drawing area at pixel intervals determined by said thinning-out level.
2. An image processing device according to Claim 1, wherein said determining means determine said thinning-out level such that the smaller the degree of change of color obtaining by said obtaining means is, the greater the amount of thinning out is.
3. An image processing device according to Claim 1, wherein said obtaining means obtains the degree of change of color based on the width of said gradation drawing area, and the number of colors within said gradation drawing area.
4. An image processing device according to Claim 3,

wherein the width of said gradation drawing area is the width of a smallest rectangular area contained within said gradation drawing area.

5. An image processing device according to Claim 3, wherein, in the event of color output within said gradation drawing area, the greatest value of the difference between the maximum value and minimum value of the brightness value of each color component within said area serves as the number of colors.

6. An image processing device according to Claim 3, wherein, in the event that said gradation drawing area is to be output in monotone grayscale, the difference between the maximum brightness level and the minimum brightness level serves as the number of colors.

7. An image processing device according to Claim 1, wherein said obtaining means obtains the degree of change of color for a part of said gradation drawing area which has the maximum scanning width.

8. An image processing method, comprising:
an obtaining step for obtaining the degree of change of color within a gradation drawing area;

a determining step for determining a thinning-out level within said gradation drawing area, based on the degree of change of color obtained in said obtaining step; and

a calculating step for calculating the color value of pixels within said gradation drawing area at pixel intervals determined by said thinning-out level.

9. An image processing method according to Claim 8, wherein said thinning-out level is determined in said determining step such that the smaller the degree of change of color obtaining in said obtaining step is, the greater the amount of thinning out is.

10. An image processing method according to Claim 8, wherein the degree of change of color is obtained in said obtaining step based on the width of said gradation drawing area, and the number of colors within said gradation drawing area.

11. An image processing method according to Claim 10, wherein the width of said gradation drawing area is the width of a smallest rectangular area contained within said gradation drawing area.

12. An image processing method according to Claim 10, wherein, in the event of color output within said gradation drawing area, the greatest value of the difference between the maximum value and minimum value of the brightness value of each color component within said area serves as the number of colors.

13. An image processing method according to Claim 10, wherein, in the event that said gradation drawing area is to be output in monotone grayscale, the difference between the maximum brightness level and the minimum brightness level serves as the number of colors.

14. An image processing method according to Claim 8, wherein the degree of change of color is obtained in said obtaining step for a part of said gradation drawing area which has the maximum scanning width.

15.) An image forming device which performs rendering processing on analyzed data, said device comprising:

receiving means for receiving Page Description Language data created by external equipment;

data analyzing means for analyzing the received Page Description Language data;

drawing means for performing gradation drawing using an image processing method according to any of the Claims 8 through 14 in the event that gradation drawing is instructed by said data analyzing means; and

output means for outputting gradation drawing obtained by said drawing means in an enlarged manner based on said thinning-out level.

16. An image forming method, comprising:

a receiving step for receiving Page Description Language data created by external equipment;
a data analyzing step for analyzing the received Page Description Language data; and

a rendering processing step for performing rendering processing on analyzed data;

said rendering processing step comprising
a drawing step for performing gradation drawing using an image processing method according to any of the Claims 8 through 14 in the event that gradation drawing is instructed in said data analyzing step; and

an output step for outputting gradation drawing obtained in said drawing step in an enlarged manner based on said thinning-out level.

17. An information processing device for converting

printing data created by an application into Page Description Language and outputting, said device comprising:

processing means for obtaining color values and thinning-out level within said gradation drawing area, obtained by an image processing method according to any of the Claims 8 through 14 with regard to the gradation drawing area; and

output means for outputting said color values and thinning-out level, obtained by said processing means, as data for said gradation drawing.

18. An information processing method for converting printing data created by an application into Page Description Language and outputting, said method comprising:

a processing step for obtaining color values and thinning-out level within said gradation drawing area, obtained by an image processing method according to any of the Claims 8 through 14 with regard to the gradation drawing area; and

an output step for outputting said color values and thinning-out level, obtained in said processing step, as data for said gradation drawing.

19. A recording medium storing a control program for realizing an image processing method according to any of the Claims 8 through 14 with a computer.

20. A control program for realizing an image processing method according to any of the Claims 8 through 14 with a computer.